

An Evaluation of an Interactive Social Media Web site for Parents who are Concerned about Immunizing their Children

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Organization:	Kaiser Foundation Research Institute
Mechanism:	PAR: HS08-269: Exploratory and Developmental Grant to Improve Health Care Quality Through Health Information Technology (IT) (R21)
Grant Number:	R21 HS 019760
Project Period:	September 2010 – September 2013
AHRQ Funding Amount:	\$165,301

Summary: Immunizations are one of the most significant public health achievements of the 20th century, preventing more than 2 million deaths per year worldwide. However, as the incidence of vaccine-preventable diseases has declined, public concern has shifted from disease transmission to vaccine safety. An increasing number of parents in developed countries now believe the risks of vaccines outweigh the benefits. Research has shown that parents who decline or delay immunizations greatly increase their children's risk of pertussis (whooping cough), varicella (chicken pox), and measles infections. Research also shows that the health information that vaccine-hesitant parents obtain from the Internet is often inaccurate and biased.

Effective intervention strategies are needed to reduce parental concerns about immunizations. The objective of this study is to develop and evaluate an interactive social media Web site for parents who have concerns about vaccines. The Web site contains high-quality educational vaccine information and features several interactive features, including a vaccine scheduler, blog, discussion forum, and chat room. It is also a resource for providers who are interested in obtaining information about the latest vaccine-related concerns and for parents who want to discuss vaccine-related topics with vaccine experts, providers, and other parents.

The interactive social media Web site was developed by Dr. Glanz and his multidisciplinary team. The study was conducted in four phases. In the first phase, the team developed the vaccine content for the Web site, which includes information on vaccine-preventable diseases, how vaccines work, how vaccines are made, vaccine safety, vaccine laws, and common parental concerns about vaccinations. In the second phase, focus groups were conducted among parents who refused, delayed, or accepted childhood vaccinations to receive feedback on the Web site's design, layout, and content. In the third phase, several usability testing sessions were conducted with parents to assess the functionality of the Web site. In the final phase, the use of the Web site will be qualitatively and quantitatively assessed over time and will include a longitudinal assessment of the pilot cohort's knowledge, attitudes, and beliefs (KAB) about immunizations. This pilot investigation will inform a larger integrated behavioral health intervention to reduce parental concerns about vaccinations and increase immunization rates over time.

Specific Aims:

- Design and develop an interactive, social media Web site devoted to immunizations. **(Achieved)**

- Conduct a qualitative, formative evaluation of the social media Web site using focus groups. **(Achieved)**
- Qualitatively and quantitatively evaluate Web site usability through one-on-one testing sessions with end users. **(Ongoing)**
- Pilot test the social media Web site with a representative cohort of end users over a 6-month followup period. **(Ongoing)**

2012 Activities: Dr. Glanz gave a number of presentations about the Web site. Audiences included the Immunization Task Force as well as Kaiser Foundation Research Institute leadership. The Web site was well-received by all audiences. Physicians in particular liked that the intervention reduced their work by allowing them to refer patients to the Web site for vaccine information.

The survey instrument to assess parental vaccine decisionmaking and KAB was administered to 443 parents who accepted, delayed, or refused vaccines for their children. All of the parents were enrolled in the Kaiser Permanente Colorado health plan.

The recruitment process for the pilot study began in July 2012 with a letter explaining the study to new and expecting parents. The study team found that multiple calls were needed to reach the target audience, given the busy lives of expecting parents. Once reached however, most were interested and agreed to participate.

To facilitate study recruitment, Dr. Glanz and his study team developed an online consenting mechanism that was approved by the institutional review board. The mechanism includes several steps: 1) participant identification; 2) identity confirmation; 3) application of study inclusion criteria; 4) consent; and 5) online survey completion. A challenge during the development process was how to collect and store identifying information (name and email address) required for the consent process, while protecting the personal information of a patient who has not yet consented to participate in the study. To solve this problem, the team used an encryption process that scrambles the personal information of potential participants and generates a unique identifier. Dr. Glanz emphasized the importance of thoroughly considering all aspects of online patient consent to streamline the process as much as possible to encourage study participation.

As last self-reported in the AHRQ Research Reporting System, project progress is on track in some respects but not others. Due to the additional work required to build the online consenting mechanism, Dr. Glanz is using a 1-year no-cost extension. Project spending is on target.

Preliminary Impact and Findings: The feedback from the focus groups was positive. All participants liked the Web site, regardless of whether they refused, delayed, or accepted vaccines for their children. Participants reported that the tone of the site was inclusive, informative, and unbiased. Several participants remarked that they liked that the funder of the Web site was not a private organization, nor an organization known for pushing a particular vaccine agenda. Participants appreciated the information explaining the diseases, and some even requested additional information. The interactive vaccine scheduler and a video that features two married pediatricians discussing vaccination for their child were also popular features. Participants felt that the information explaining aluminum levels in vaccines was not clear, and that there should be more photographs of fathers. Feedback from the focus groups was used to modify the Web site. The results were accepted for publication in *Academic Pediatrics*, with an anticipated publication date of October 2013.

Target Population: Other Conditions: Pertussis, Varicella, Measles, Pediatric*

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

Business Goal: Knowledge Creation

**This target population is one of AHRQ's priority populations.*